Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
L1	50	(("6445334") or ("5394151") or ("5659318") or ("6014099") or ("6204799") or ("5742250") or ("5900833") or ("6166677") or ("4929953") or ("5557283") or ("6894637") or ("5990834") or ("5867119") or ("6370475") or ("5424743") or ("5627543") or ("4872012") or ("5262781") or ("5446461") or ("4546355") or ("4563686") or ("4924229") or ("5179383") or ("5182562") or ("5497158") or ("5959566") or ("6441772") or ("5264852") or ("6384766") or ("6452532") or ("4617567") or ("5673050") or ("4321601") or ("5742252") or ("5339080") or ("5260708") or ("5523759") or ("5877721") or ("6405132") or ("4837577") or ("6304210") or ("4288795") or ("4814779") or ("5557282") or ("5721554") or ("6191750") or ("4870420") or ("5486835") or ("5786792") or ("5845391")).PN.	USPAT	OR	OFF	2005/06/17 16:43
L2	14	"real aperture radar"	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2005/06/17 17:21
L3	1	"6222933".PN.	USPAT; USOCR	OR	OFF	2005/06/17 16:45
L4	20	("4134113" | "4321601" | "4359732" | "4387373" | "4442431" | "4489322" | "4723124" | "4837577" | "4853699" | "4866448" | "4872012" | "4879559" | "H000741").PN. OR ("4978960"). URPN.	US-PGPUB; USPAT; USOCR	OR	OFF	2005/06/17 16:59
L5	1	("3,896,466").PN.	USPAT; USOCR	OR	OFF	2005/06/17 17:04
L6	1	("3896466").PN.	USPAT; USOCR	OR	OFF	2005/06/17 17:04
L7	2	"real-aperture radar"	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2005/06/17 17:23
L8	6	("5614907").URPN.	USPAT	OR	OFF	2005/06/17 17:07

L9	1	("4879559").PN.	USPAT; USOCR	OR	OFF	2005/06/17 17:21
L10	4	real-aperture$2 near2 radar	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2005/06/17 17:33
L11	181	RAR and radar	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2005/06/17 17:33
L12	86	11 and (aircraft$2 airborne$2 airplane$2 spacecraft$2)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2005/06/17 17:34

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Detection of oceanic fronts at low grazing angles using an X band real aperture radar 5

Variability in the evolution of the Chesapeake Bay outflow plume front as observed with a *real aperture radar.*

Accession number & update
7306946, A2002-15-9210-042, B2002-08-7710D-031; 20020626.

Author(s)
Sletten-M-A; Twarog-E; Xuehu-Zhang; McLaughlin-D-J.
Author affiliation
Naval Res Lab, Washington, DC, USA.

Source
IGARSS 2001. Scanning the Present and Resolving the Future. Proceedings. IEEE 2001 International Geoscience and Remote Sensing Symposium, vol.1, Sydney, NSW, Australia, 9-13 July 2001.
In: p.281-3 vol.1, 2001.
ISSN
ISBN: 0-7803-7031-7, CCCC: 0-7803-7031-7/01/ ($10.00).
Availability
Also available on CD-ROM in PDF format.
Publication year
2001.
Language
EN.
Publication type
CPP Conference Paper.
Treatment codes
X Experimental.

Abstract
In this paper, time sequences of ***radar*** imagery are presented that illustrate the spatial and temporal evolution of the Chesapeake Bay outflow plume front. These images were collected in May 1997 and May 1999 during parts 2 and 5 of the Chesapeake Bay Outflow Plume Experiment (COPE2 and COPE5, respectively). The COPE5 data set features an image sequence that spans nearly ten hours during the early-flood to maximum-ebb portion of the semidiurnal tidal cycle. The frontal evolution shown in this continuous image sequence shows a striking resemblance to that implied by a "composite" sequence from COPE2, formed by combining data from two separate flights flown on two consecutive days, indicating a high degree of reproducibility in the frontal evolution. (4 refs).

Descriptors
airborne-radar; image-sequences; oceanographic-regions; ***radar-imaging; remote-sensing-by-radar;*** tides.
Keywords
Chesapeake Bay outflow plume; ***real aperture radar;*** AD 1997 05 to 1999 05; time sequences; ***radar*** imagery; spatial evolution; temporal evolution; May 1997; May 1999; Chesapeake Bay Outflow Plume Experiment; COPE2; COPE5; image sequence; early flood; maximum ebb; semidiurnal tidal cycle; frontal evolution.
Classification codes
A9210S (Coastal and estuarine oceanography).
A9210F (Dynamics of the upper ocean).
A9330M (Atlantic Ocean).
A9210H (Surface waves, tides, and sea level).
B7710D (Oceanographic and hydrological techniques and equipment).
B6320 (***Radar*** equipment, systems and applications).

An *airborne, real aperture radar* study of the Chesapeake Bay outflow plume.

Accession number & update
6165220, A1999–06–9210–016; 19990201.

Author(s)
Sletten–M–A; Marmorino–G–O; Donato–T–F; McLaughlin–D–J; Twarog–E.
Author affiliation
Naval Res Lab, Washington, DC, USA.

Source
Journal–of–Geophysical–Research (USA), vol.104, no.C1, p.1211–22, 15 Jan. 1999. , Published: American Geophys. Union.
CODEN
JGREA2.
ISSN
ISSN: 0148–0227, CCCC: 0148–0227/99/1998JC900034 ($09.00).
Availability
SICI: 0148–0227(19990115)104:C1L.1211:ARAR; 1–5.
Publication year
1999.
Language
EN.
Publication type
J Journal Paper.
Treatment codes
X Experimental.

Abstract
An ***airborne, real aperture radar*** (RAR) has been used to study the fronts associated with the Chesapeake Bay outflow plume during spring outflow conditions. The RAR produced images of the ocean surface with a range resolution of 10 m, an azimuthal resolution of approximately 30 m, and an image size of 2.5 km*24 km. Two sampling strategies were utilized: one to synoptically map the entire mouth of the Chesapeake Bay at roughly hourly intervals; and a second to capture the rapid evolution of particular features. In addition, flight times were chosen such that over the course of the entire experiment, data were collected over all phases of the semidiurnal tidal cycle. Three distinct frontal signatures were observed in the imagery. A primary front extended from inside the estuary along the Chesapeake Channel to an anticyclonic turning region east of Cape Henry, and then extended southward along the coast toward Cape Hatteras. This is the classic expression of the plume front, inertial turning region, and coastal jet. A second front with a north–south orientation was observed approximately 20 km east of the bay mouth. This secondary front appears to mark the residual offshore density gradient. A third front was identified east and south of Cape Henry, within 2 km of the coast. This front appears to mark the inshore edge of the plume and has not been documented previously. Time sequences of the imagery indicate that when moving in a clockwise sense around the primary front, the frontal translation speed varies systematically from 20 cm/s in the northern section to 50 cm/s in the south. The position of the primary front and the locations and trajectories of small–scale frontal cusps suggest that bathymetry may be both a significant determinant of the front location as well as a source of along–front variability. These observations are possible due to the ***airborne*** RAR's ability to collect high–frame rate image sequences, a capability that is not shared by present space–based ***radar*** systems. (20 refs).

Descriptors
oceanographic–regions.
Keywords

ocean; coast; United States; USA; North Atlantic; dynamics; circulation; ***real aperture radar*** study; Chesapeake Bay; outflow plume; front; season; spring; semidiurnal tidal cycle; frontal signature; Chesapeake Channel; anticyclonic turning region; Cape Henry; Cape Hatteras; plume front; inertial turning region; coastal jet.

Classification codes

A9210S (Coastal and estuarine oceanography).
A9330M (Atlantic Ocean).
A9210F (Dynamics of the upper ocean).
A9210M (Thermohaline structure and circulation of the oceans).

Using of *airborne* side-looking *radar* images for nonlinear internal wave studies.

Accession number & update

6090952, A9901-9385-043, B9901-7710D-011; 981120.

Author(s)

Lavrova-O-Yu; Badulin-S-I; Ed. by Stein-T-I.

Author affiliation

Space Res Inst, Acad of Sci, Moscow, Russia.

Source

IGARSS '98. Sensing and Managing the Environment. 1998 IEEE International Geoscience and Remote Sensing. Symposium Proceedings, vol.5, Seattle, WA, USA, 6-10 July 1998.
Sponsors: IEEE, IEEE Geosci. & Remote Sensing Soc., Univ Washington, NASA, NOAA, Office of Naval Res., Nat. Space Dev. Agency Japan, URSI.
In: p.2493-5 vol.5, 1998.

ISSN

ISBN: 0-7803-4403-0, CCCC: 0 7803 4403 0/98/ ($10.00).

Publication year

1998.

Language

EN.

Publication type

CPP Conference Paper.

Treatment codes

P Practical; X Experimental.

Abstract

The application of ***airborne real aperture radar*** to the nonlinear interaction of ocean internal waves study is discussed. Three typical cases of nonlinear interaction manifestations of internal waves are analyzed qualitatively. A large data set of high resolution sea surface ***radar*** images taken by Space Research Institute is used. The data are collected during many years of experiments (1975-1992) in several region of the world ocean. (5 refs).

Descriptors

airborne-radar; ocean-waves; oceanographic-techniques; oceanography; ***remote-sensing-by-radar.***

Keywords

ocean dynamics; internal wave; ***radar*** remote sensing; ***airborne radar;*** measurement technique; side looking ***radar;*** nonlinear internal wave; ***radar*** imaging; ***real aperture radar;*** nonlinear interaction.

Classification codes

A9385 (Instrumentation and techniques for geophysical, hydrospheric and lower atmosphere research).
A9210H (Surface waves, tides, and sea level).
A9210F (Dynamics of the upper ocean).
B7710D (Oceanographic and hydrological techniques and equipment).
B6320 (***Radar*** equipment, systems and applications).

An *airborne, real-aperture radar* study of the Chesapeake Bay outflow plume.

Accession number & update
6069676, A9823-9210-016; 981027.

Author(s)
Sletten-M-A; Marmorino-G-O; Donato-T-F; Ed. by Stein-T-I.

Author affiliation
Naval Res Lab, Washington, DC, USA.

Source
IGARSS '98. Sensing and Managing the Environment. 1998 IEEE International Geoscience and Remote Sensing. Symposium Proceedings, vol.4, Seattle, WA, USA, 6–10 July 1998.
Sponsors: IEEE, IEEE Geosci. & Remote Sensing Soc., Univ Washington, NASA, NOAA, Office of Naval Res., Nat. Space Dev. Agency Japan, URSI.
In: p.2198–200 vol.4, 1998.

ISSN
ISBN: 0–7803–4403–0, CCCC: 0 7803 4403 0/98/ ($10.00).

Publication year
1998.

Language
EN.

Publication type
CPP Conference Paper.

Treatment codes
X Experimental.

Abstract
The Naval Research Laboratory (NRL) has recently utilized an ***airborne, real aperture radar*** (RAR) to study the fronts associated with the outflow from the Chesapeake Bay. During May 1997, the system was flown near the mouth of the Chesapeake Bay as part of the Chesapeake Bay Outflow Plume Experiment (COPE). This paper presents a summary of the RAR operations and of the data collected during the exercise. The plume front positions, as determined from the X–band RAR imagery, are presented for four cases, spanning the full semidiurnal tidal cycle over the course of approximately two weeks. (3 refs).

Descriptors
oceanographic–regions.

Keywords
ocean; sea surface; coast; circulation; USA; North Atlantic; United States; ***radar*** remote sensing observations; AD 1996; AD 1997; ***real aperture radar; airborne radar;*** Chesapeake Bay outflow plume; ***real aperture radar;*** RAR; Chesapeake Bay Outflow Plume Experiment; COPE; plume front position.

Classification codes
A9210S (Coastal and estuarine oceanography).
A9330M (Atlantic Ocean).
A9210F (Dynamics of the upper ocean).
A9210M (Thermohaline structure and circulation of the oceans).

Detection of oceanic fronts at low grazing angles using an X band *real aperture radar.*

Accession number & update
5481393, A9705–9385–013, B9703–7710D–003; 970129.
Author(s)
Askari–F; Donato–T–F; Morrison–J–M.
Author affiliation
Remote Sensing Div, US Naval Res Lab, Washington, DC, USA.
Source
Journal–of–Geophysical–Research (USA), vol.101, no.C9, p.20883–98, 15 Sept. 1996. , Published: American Geophys. Union.
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JGREA2.
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ISSN: 0148–0227, CCCC: 0148–0227/96/96JC–00999 ($09.00).
Availability
SICI: 0148–0227(19960915)101:C9L.20883:DOFG; 1–S.
Publication year
1996.
Language
EN.
Publication type
J Journal Paper.
Treatment codes
P Practical; X Experimental.
Abstract
The authors examine the ***radar*** signatures and changes in the surface roughness associated with oceanic features in the low grazing angle (LGA) scattering regime. The X band (HH) ***radar*** signatures consist of high–amplitude sea spikes, step changes in the normalized ***radar*** cross–section (NRCS) modulations, and bright narrowbanded frontal structures. Using in situ observations coupled with ***airborne*** precision radiation thermometer (PRT–5) data, the authors show that the step changes in ***radar*** cross–section modulations are associated with either thermal stability–induced stress variations or current velocity variations. Superimposed on the step changes are additional modulations that result from wave breaking and hydrodynamic straining. The amplitudes of the NRCS LGA measurements are compared with the predictions of four backscattering models: the Bragg, the tilted–Bragg, the wedge, and the plume model. It is shown that while the simple Bragg model can describe the measurements to a limited degree, it generally tends to underpredict the results. Agreement is improved by including the tilt contribution from the longwave surface waves in the context of the composite scattering model. The authors use the wedge and plume models as the basis for explaining the cross sections associated with the high–amplitude sea spikes. The wedge model is used to describe scattering from sharply crested waves, and the plume model is used to describe the extreme cross sections that are associated with breaking waves near the fronts. In describing the probability density function characteristics we show that the backscattering statistics exhibit "K distribution" behavior for the Gulf Stream current region and near–frontal regions, while the cooler shelf waters have characteristics of an exponential distribution. (33 refs).
Descriptors
oceanographic–techniques; ***radar–cross–sections;*** remote–sensing–by– ***radar.***
Keywords
ocean dynamics; ***radar*** remote sensing; measurement technique; oceanic front detection; low grazing angle; grazing incidence; X band ***real aperture radar;*** SHF; microwave ***radar; radar*** signature; ***radar*** scattering; backscatter; surface roughness; high amplitude sea spike; step change; ***radar*** cross section; bright narrowbanded frontal structure; plume model; Bragg model; wedge model; longwave surface wave; sea surface.

Classification codes

A9385 (Instrumentation and techniques for geophysical,

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          hydrospheric and lower atmosphere research).
A9210F    (Dynamics of the upper ocean).
B7710D    (Oceanographic and hydrological techniques and equipment).
B6320     (Radar equipment, systems and applications).
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